

CLAIMS

1. An apparatus for recovering projectile material fragments ejected by an impact, said apparatus comprising:

a projectile containment chamber having an interior volume;

a target disposed within said chamber to contact a projectile introduced into said

5 chamber at a rate sufficient to generate said projectile material fragments; and

a solvent-soluble granulated medium disposed within the interior volume of said containment chamber.

2. The apparatus of claim 1 wherein the solvent soluble granulated material has a grain size comparable to a size of the smallest projectile material fragments.

3. The apparatus of claim 1 further comprising an aperture formed in a wall of said projectile containment chamber.

4. The apparatus of claim 1 wherein the projectile containment chamber is formed of greater than 0.25-inch steel.

5. The apparatus of claim 1 wherein the solvent-soluble granulated material is a salt.

6. The apparatus of claim 1 wherein the solvent-soluble granulated material is operative to capture and quench pyrophoric projectile material fragments.

7. The apparatus of claim 5 wherein the salt is non-reactive with said
5 projectile material fragments.

8. The apparatus of claim 5 wherein the salt is selected from the group consisting of lithium, halides, sodium halides, potassium halides, magnesium halides, calcium halides, aluminum chloride and sodium chloride.

9. The apparatus of claim 5 wherein the salt is sodium chloride.

10. The apparatus of claim 3 wherein the aperture is at least 25 millimeters in diameter.

11. The apparatus of claim 1 further comprising at least one backstop disposed within the containment chamber operative to prevent the target material from moving in at least one direction after being impacted by the projectile.

12. An apparatus for recovering projectile material fragments ejected from a target material disposed therein, said apparatus comprising:

a projectile containment chamber comprising a front wall, the front wall having an aperture therein, an interior volume and a lid adapted to cover an open top side of the
5 chamber; and

a solvent-soluble granulated material disposed within the interior volume of the containment chamber.

13. The apparatus of claim 12 wherein the solvent soluble granulated material has a grain size comparable to a size of the smallest projectile material fragments.

14. The apparatus of claim 12 wherein the containment chamber further
5 comprises a rimmed edge for supporting the lid on the open top side.

15. The apparatus of claim 12 wherein the solvent-soluble granulated material is operative to capture and quench pyrophoric projectile material fragments.

16. The apparatus of claim 12 further comprising a gasket between the rimmed edge and the lid.

17. The apparatus of claim 12 wherein the front wall is formed of 0.20-inch thick steel.

18. The apparatus of claim 17 further comprising at least 2.5-inch thick steel back wall.

19. The apparatus of claim 12 wherein the solvent soluble granulated material is a salt.

20. The apparatus of claim 19 wherein said salt is non-reactive with the projectile material fragments.

21. The apparatus of claim 19 wherein the salt is selected from the group consisting of lithium, halides, sodium halides, potassium halides, magnesium halides, calcium halides, aluminum chloride and sodium chloride.

22. The apparatus of claim 19 wherein the salt is sodium chloride (NaCl).

23. A method of capturing projectile material fragments comprising:
disposing a target material within the interior volume of a containment chamber;
filling a portion of the interior volume with a solvent-soluble granulated medium;
launching a projectile into the containment chamber to strike the target material to

5 form projectile material fragments;

dissolving the solvent-soluble granulated medium to form a solution; and
separating the projectile material fragments from the solution.

24. The method of claim 23 wherein the solvent-soluble medium is NaCl.

25. The method of claim 23 wherein the solvent soluble granulated material has a grain size comparable to a size of the smallest projectile material fragments.

26. The method of claim 23 further comprising the step of disposing a lid over
5 an open top side of the chamber before launching the projectile.

27. The method of claim 26 further comprising the step of securing the lid to
the containment chamber with fastening straps.

28. The method of claim 23 wherein the step of separating the projectile
material fragments comprises using a magnet.

29. The method of claim 23 further comprising the step of providing backstops
behind the target material disposed in the containment chamber.